

REMARKS

CLAIM REJECTIONS

Claims 1 – 39 have been rejected under 35 U.S.C. 103 as being unpatentable over Perkins (U.S. Patent No. 6,288,840) in view of Garvin (U.S. Patent No. 4,289,381).

Applicant respectfully traverses these rejections for at least the following reasons.

35 U.S.C. §103(a) recites:

[a] patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). *MPEP 706.02(j)*.

A. Independent Claims

Applicant has amended Claim 1 herein to more distinctly point out what Applicant regards as the invention. Amended Claim 1 recites in part,

A radiation polarizer for maximizing a transmission of a first polarization state while minimizing a reflection of the first polarization state and for minimizing a transmission for an orthogonal second polarization state while maximizing a reflection of the second polarization state, said polarizer , comprising: ...

at least one dielectric substantially between said substrate and said at least two groove layers, said at least one dielectric having a refractive index greater than one,

Support for Amended Claim 1 may be found generally in the specification and the accompanying figures. Applicant respectfully submits that Amended Claim 1 claims the functions of beam splitting and combining. Thus, as may be seen in Amended Claim 1, the present application is directed toward a radiation polarizer for maximizing a first polarization state and maximizing the reflection of a second polarization state. The present Office Action cites Garvin. In stark contrast to the present invention, Garvin does not teach the maximizing of the reflection of one polarization state while maximizing the transmission of another. This deficiency in the teaching of Garvin is not remedied by the citation to Perkins. Perkins similarly does not teach the maximizing of the transmitted polarization state while maximizing the reflection of the orthogonal polarization state. Applicant respectfully submits that for at least this reason the present application is not unpatentable.

Further, Amended Claim 1 recites “at least one dielectric substantially between said substrate and said at least two groove layers, said at least one dielectric having a refractive index greater than one”. Applicant respectfully submits that the placement of a dielectric between the substrate and the groove layers is not taught or discussed in Perkins or Garvin, alone or in any combination. In Garvin, for example, the metal grids are placed between a substrate and an anti-reflection coating. This is clearly distinct from the placement of a dielectric between the grooves and the grid. In Perkins, for example, the grid structure is surrounded by air and immediately contacts the substrate. In the present invention, a dielectric is placed substantially between the substrate and the grooves. Because the references fail to teach the use of at least one dielectric between said substrate and said groove layers, Applicant respectfully submits that Amended Claim 1 is patentably distinct.

Applicant respectfully submits that Amended Claims 22, 33 and 39 are similarly distinguishable over the presently cited art, for at least the reasons set forth with respect to Amended Claim 1.

B. Dependent Claims

Applicant respectfully submits that Claims 2 – 21, 23 – 32, and 34 – 38 are not anticipated under § 103(a) as being unpatentable over Perkins in view of Garvin, at least by virtue of these claims’ ultimate dependency upon a patentable base claim, namely Claims 1, 22, and 33, respectively.

CONCLUSION

Wherefore, Applicant believes he has addressed all outstanding grounds raised by Examiner and respectfully submits that the present case is in condition for allowance, early notification of which is earnestly solicited.

Should there be any questions or outstanding matters, Examiner is cordially invited and requested to contact Applicant's undersigned attorney at his number listed below.

Respectfully Submitted,

REED SMITH LLP

A handwritten signature in black ink, appearing to read 'T. McWilliams', is written over a horizontal line.

THOMAS J. MCWILLIAMS
Registration No. 44,930
TODD A. NORTON
Registration No. 48,636
2500 One Liberty Place
1650 Market Street
Philadelphia, PA 19103
(215) 851-8100
Attorneys for Applicant